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Early Intervention for Trauma in Adults

A Framework for First Aid and Secondary Prevention

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In this chapter, we describe early intervention strategies for adults exposed to trauma and critically examine the empirical research on secondary prevention of chronic posttraumatic stress disorder (PTSD). We clarify conceptually the temporal parameters of posttrauma service delivery, discuss the importance of palliative and supportive first aid in the immediate aftermath of trauma, and underscore the need to separate first-aid services from formal secondary prevention interventions. We then describe psychological debriefing in detail and the controversies surrounding the use of critical incident stress debriefing (CISD). This description is followed by a discussion of the application of cognitive-behavioral therapy as a secondary prevention strategy. Throughout the chapter, we describe a number of specific issues that need further research and clarification.

We argue that the field of early intervention needs to be far more integrated and connected to advances in the scientific study of psychological trauma and advances in research on the treatment of PTSD. In the past, however, early intervention for trauma has been the specialized purview of clinicians who have studied, or trained in, the traditions of crisis intervention and grief counseling (e.g., Mitchell, 1983; Roberts, 1991). These approaches to early intervention have been widely applied in the past because of their compelling face validity, sensitivity, and awareness of organizational goals; the certification provided to professional care providers; and because, on average, survivors of trauma appreciate getting some kind of assistance, even if it does not improve their recovery (Litz, Gray, Bryant, & Adler, 2002). In addition, the need to provide some sort of supportive, palliative care in the face of disaster and trauma has far outweighed interest in, and concerns about, evidence supporting the efficacy of crisis intervention strategies. On the other side of the coin, early interventions have only recently been the subject of rigorous clinical research and there has been scant attention paid to conducting research on chronic PTSD that could translate to the early intervention context.

We argue that if designed as a vehicle to reduce risk for chronic posttraumatic psychopathology (secondary prevention), early intervention practices that do not have a sound evidentiary base should not be promoted. However, at present, there are more empirical questions about early intervention that have gone unaddressed or unanswered than there is evidence to definitively support various methods. Because there is no question that most people adapt to trauma on their own, over time, the danger is that the field of early intervention reverts insidiously to assumptions and actions that may prove destructive in the long run. For example, it would be inappropriate to conclude that as most people adjust to extreme trauma on their own, everyone should be left alone until those most vulnerable to chronic posttraumatic problems seek care on their own. We also do not want to deny the suffering of those who develop posttraumatic difficulties by blaming them for some personal inadequacy, which would be horrendously stigmatizing and decrease help seeking. On the other hand, it is inappropriate and untenable to prescribe formal secondary prevention services to everyone exposed to trauma. To work toward redressing this quandary, we describe a set of palliative and information-sharing strategies that are appropriate for all who survive trauma and a set of interventions designed to prevent chronic PTSD in those most at risk.

To contextualize strategies for early intervention, we first summarize the history of early intervention for trauma and the treatment of posttraumatic stress. This will provide a backdrop to appreciate the genesis and attractiveness of early intervention for trauma.

A BRIEF HISTORY OF EARLY INTERVENTION FOR TRAUMA

Modern early intervention for trauma and the treatment of PTSD have direct roots in practices initiated during and immediately after World War I and World War II especially. Soldiers in both of these wars who were traumatized or exhausted were told that their reactions were normal and that they would be able to return to combat. They were given immediate respite and rest as close to their unit as possible (see Salmon, 1919, for the original concepts). This directly parallels modern notions of crisis intervention and psychological debriefing, especially the provision of early interventions to emergency services personnel who reenter dangerous circumstances (e.g., firefighters; Flannery & Everly, 2000), as well as the modern soldiers engaging in combat (Solomon & Benbenishty, 1986). It was a common assumption in military psychiatry that soldiers who were incapacitated in battle or during redeployment were impaired because they had repressed their memories of the horrors they witnessed in battle. To treat such a condition, psychiatrists would prompt soldiers to disclose the emotional details of their combat memories (e.g., Grinker & Spiegel, 1945; Kardiner, 1941). This was, at times, facilitated by the use of sodium amobarbital, a barbiturate, which produced a relaxed and hypnagogic state that prompted uninhibited and spontaneous sharing of traumatic memories (see Karon & Widener, 1997). In a related fashion, Dollard and Miller (1950) were the first to systematically describe (and apply) a treatment for posttraumatic pathology that employed principles of human learning and conditioning, which presaged modern cognitive-behavioral treatments for PTSD and several components of psychological debriefing. They had traumatized World War II veterans disclose their painful memories of combat, repeatedly, which produced systematic reductions in negative affect and avoidance.

Also during the World War II era, the concept of debriefing was developed and implemented by Marshall (1950; see Shalev, 1994), which is standard operating procedure in the armed forces and various law enforcement agencies to this day (e.g. Williams, 1990). Debriefing, which is a precursor to modern psychological debriefing, entailed having all soldiers in a unit gather in a group, as soon as possible after an incident (e.g., loss of a comrade in a battle), to discuss the event in great detail. During a debriefing, rank was set aside and all opinions were respected. Emotional reactions from soldiers were recognized and validated. The "debriefing" or leader created an empathic and congenial atmosphere to facilitate communication and openness. Debriefing was seen as a method of creating a historical record, learning lessons from battle, building trust, group cohesion, and morale, as well as motivating troops to return to hazardous duty.

The central tenets of CISD, influenced by Marshall's original concepts, are groups of individuals with similar exposure to danger/tragedy experienced as a result of occupational demands (e.g., police officers), getting together soon after a traumatic event to give a systematic and detailed account of experiences and feelings surrounding the event (see Mitchell & Everly, 1996). However, the concept of operational debriefing is designed to meet organizational goals (to gather facts about mission execution, maintain combat readiness, etc.) and does not serve a mental health function (e.g., to assist soldiers to cope with trauma and reduce risk for chronic posttraumatic pathology). During this time, debriefings performed to improve mental health normalized and accepted reactions to trauma in order to motivate soldiers to face their fears and dread and to instill the expectation that, regardless of the quality or severity of psychological reaction, return to combat was expected. It has been argued that in work cultures (e.g., firefighters), CISD may be attractive because it provides operational debriefing (e.g., Litz et al., 2002). CISD may meet organizational mandates because the normality of any response to trauma and the expectation that return to work is expected are emphasized. In addition, CISD provides services which are completely integrated into the work culture (e.g., mandated by management and approved by immediate supervisors, peer co-intervention). However, contrary to intended goals, CISD does not necessarily affect long-term adaptation to trauma.

THE SCOPE AND IMPACT OF TRAUMA: WHY IS EARLY INTERVENTION SO IMPORTANT?

In the last decade, there has been a tremendous proliferation of research on the acute and chronic impact of all types of trauma across the lifespan. Epidemiological studies revealed that the risk for exposure to trauma in the general population of the United States is very high. In a community survey of young adults enrolled in a health maintenance organization (HMO) in the Midwest, Breslau, Davis, Andreski, and Peterson (1991) found that more than one-third of respondents had experienced at least one traumatic event. In a survey of exposure to trauma in four different cities in the Southeast, Norris (1992) found that two-thirds of participants had experienced at least one trauma at some time during their life and that one-fifth had been exposed to trauma in the past year. In a nationwide study, Resnick, Kilpatrick, Dansky, Saunders, and Best (1993) found that women reported a wide range of criminal victimization experiences, such as being sexually and physically assaulted, and close to 70% of respondents had experienced one or more victimizations across the lifespan. In the National Comorbidity Study, Kessler and colleagues, found that

60.7% of men and 51.2% of women reported exposure to at least one traumatic event across their lifetime (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

Not all traumas are equally likely across the lifespan, which suggests that preparation and planning for early intervention needs to take into account relative risk of exposure for various populations. For example, Breslau et al. (1998) found that 37% of respondents reported a physical assault of some kind (such as rape, torture, or military combat), 59% experienced some other traumatic personal injury or severely stressful experience (e.g., motor vehicle accident, disaster, life-threatening illness, or witnessing a traumatic event), 60% experienced the sudden, unexpected death of a loved one, and 62% lived through a traumatic experience suffered by a loved one (e.g., family member assaulted or spouse seriously injured in an accident).

If everyone exposed to trauma was equally at risk for developing PTSD and other impairments in functioning as a result of trauma, then early intervention for trauma would be a straightforward process. In the ideal case, everyone would be advised to receive an early preventive intervention that was proven to prevent chronic PTSD. However, epidemiological studies of post-traumatic adjustment have revealed that the large majority of victims of trauma are remarkably resilient, and only a small percentage are at risk for developing chronic PTSD. After a variable interval of disrupted functioning, most individuals exposed to trauma do not develop chronic posttraumatic mental health problems (e.g., Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992). Breslau et al. (1991) found that 11% of Detroit-area HMO enrollees had PTSD. Resnick et al. (1993) found that 12% of women exposed to physical and sexual assaults reported a lifetime history of PTSD. In the National Comorbidity Study, 8% of respondents had a lifetime history of PTSD (Kessler et al., 1995). Some traumatic experiences pose considerably higher risk for PTSD than others. For example, physical assaults and other forms of interpersonal violence as well as violence to significant others that resulted in loss are associated with substantially higher risk for PTSD (e.g., Breslau et al., 1998).

Generally, the psychological risks from exposure to trauma are proportional to the magnitude or severity of exposure, and the degree of life threat and malicious intent involved (e.g., Green, 1994). For example, people who lived below Canal Street in New York City were three times as likely to have PTSD 1 to 2 months after the attack on the World Trade Center, relative to individuals who lived in northern Manhattan (Galea et al., 2002). The extent to which individuals witness grotesque human suffering and the extent of loss of personal resources are additional event-related characteristics that moderate risk for chronic PTSD (e.g., Green, Grace, Lindy, Gleser, & Leonard, 1990; McCarroll, Urasano, & Fullerton, 1994). Finally, the degree of preparation and

predictability of events affects outcome—emergency services personnel fair better than direct victims of trauma, as do combat soldiers when compared to refugees and other victims of war.

A number of individual vulnerabilities have also been shown to moderate risk for PTSD. For example, individuals who have a history of psychiatric problems (in particular, depression), poor coping resources or capacities, and past history of trauma and mistreatment are at increased risk (e.g., Breslau et al., 1998; Freedman, Brandes, Peri, & Shalev, 1999; North et al., 1999; Shalev, Peri, Canetti, & Schreiber, 1996). Individuals who show intense and frequent symptoms of acute stress disorder (particularly, severe hyperarousal; Shalev, Freedman, Peri, Brandes, & Sahar, 1997) in the weeks following trauma are particularly at risk for chronic PTSD (e.g., Harvey & Bryant, 1999), although the mechanisms responsible for this are uncertain. In addition, the quality and breadth of supports in the recovery context and beyond can affect risk for PTSD. This research suggests that the people who need early intervention most are the ones who are isolated and cannot get the respite they may need, have few secure and reliable outlets for unburdening their experiences, and receive little or no validation in the weeks, months, and years following exposure to trauma (e.g., Foy, Sippelle, Rueger, & Carroll, 1984; Keane, Scott, Chavoya, Lamparski, & Fairbank, 1985; Martin, Rosen, Durand, Knudson, & Stretch, 2000; Pennebaker & O'Heeron, 1984).

Thus, posttraumatic mental health problems are caused by a complex set of interrelated factors (e.g., King, King, Fairbank, Keane, & Adams, 1998). Effective early intervention for those victims who will have more than a brief disruption in functioning would be greatly facilitated by screening those who are at risk for chronic PTSD. However, attention to risk factors has been ignored by the majority of practitioners and planners (until recently, e.g., Everly, 2000). Typically in the history of psychological debriefing, it was believed that everyone exposed to trauma required early intervention, because, if unaddressed (not shared and emotionally processed), trauma would cause PTSD (Mitchell & Everly, 1996). To be fair, it is difficult, in most traumatic contexts, to implement a screening program. However, given the state of the field, logistical and practical problems with screening need to be worked out operationally (see Wright, Huffman, Adler, & Castro, 2002).

Although PTSD is the modal pathological response to trauma, it is often comorbid with depression, other anxiety disorders, and substance abuse (Breslau et al., 1991; Kulka et al., 1988). Thus, early intervention may serve to reduce the risk for a host of mental health problems (although this hypothesis needs to be assessed in clinical trials). Because research has shown that different traumas, experienced at different developmental periods, present dissimilar psychosocial sequelae, early interventions also need to be tailored to the

unique exigencies and risks of different trauma contexts. For example, natural and technological disasters usually destroy resources used to sustain well-being (e.g., housing; Norris et al., 2002). Interpersonal trauma such as sexual assault can result in generalized negative beliefs about trust and safety, which can be debilitating (e.g., Koss, 1993).

There is increasing recognition that early intervention is critical because chronic PTSD is pernicious and disabling across the lifespan (e.g., Green, Lindy, et al., 1990; Kulka et al., 1988). Most patients with chronic PTSD do not seek or receive services for their condition, as a result of other pressing priorities, the availability and knowledge of treatment resources, income disparities, stigma, and shame (e.g., Kessler et al., 1995). Although 38% of individuals with PTSD are likely to be receiving mental health treatment at a given point in time, this group remains chronic and resistant to treatment (Kessler et al., 1995). Finally, it should be noted that the individual and societal costs associated with PTSD are very high. A history of PTSD is associated with risk of suicide attempts, failures in educational achievement, marital instability, and downward spirals in social and occupational functioning (e.g., Kessler et al., 1995; Kulka et al., 1988). This remains the most important argument for early preventive interventions for trauma.

TEMPORAL PARAMETERS IN THE PROCESS OF TRAUMA RECOVERY

There is no consensus about the optimal time frame for providing different types of early mental health interventions for trauma. Although it is safe to say that early intervention for trauma is indicated, the field is uncertain with respect to the complex synergy of issues of timing (when), intervention options (what), and selection (with whom). First and foremost, we feel it is important to distinguish the period of acute adaptation from that period in which the immediate psychological and biological impact of trauma is still manifest. We propose to call the first interval the *immediate impact phase*, in contrast with the *acute phase*, in which individuals are better prepared to receive secondary prevention interventions. We argue that it is inappropriate to consider formal secondary prevention interventions during the immediate impact phase of response to trauma. For secondary prevention interventions to be effective, the recipient needs to be an active participant in a process of learning, reframing, and implementing a plan of action, as occupational, interpersonal, and self-care demands emerge over time (Litz et al., 2002; Shalev, 2002). The immediate impact phase is not a time in which a person can listen carefully, absorb new information, and appreciate the nuances and the demands ahead of them to promote recovery. The immediate impact phase is also a time when the trauma

matized person may not be able to articulate his or her experience in a fashion that could be therapeutic, especially to a relative stranger even if he or she is empathic and supportive.

There are virtually no studies of the phenomenology and time course of the immediate response to trauma. To appreciate the complex immediate aftermath of trauma, we have to infer from retrospective reports of trauma survivors, clinician observations of disaster response, and what is known about the effects of severe stress on human performance. Although there are tremendous individual differences, the traumatic stress reaction entails extreme activation of physiological and psychological resources designed to mobilize the person to respond to life threat and any uncontrollable, intense, or sustained threat to psychological integrity (such as severe dehumanization, humiliation, and degradation), a variety of negative affects (e.g., dread, anger, and horror), intense feelings of vulnerability, powerlessness, and loss of control, as well as depersonalization and derealization—being in a daze, depression, despair, and withdrawal (e.g., Herman, 1992; Horowitz, 1986; Rothbaum et al., 1992; Solomon, Laor, Weiler, & Muller, 1993; Shalev et al., 1996; Weiss, Marmar, Metzler, & Ronfeldt, 1995). In addition, the immediate impact phase is characterized by the behavioral and emotional effects of circulating epinephrine and cortisol (stress hormones), which sustain the alarm reaction (jitteriness, hypervigilance, sleep disruption, appetite suppression, etc.). These physiological and psychological states drain coping capacities, narrow or dull attention, reduce learning capacity, and affect organization of thought and experience (e.g., Christianson, 1992; Eysenck & Calvo, 1992).

It is best to be conservative with respect to estimating how long the immediate impact of trauma exposure lasts. We define the time frame for the immediate impact phase to be from the time the person is objectively safe to 2 days posttrauma. This corresponds with the 48-hour interval for an *acute stress reaction* in the 10th edition of the *International Classification of Diseases* (ICD-10; World Health Organization, 1992). Of course, there will be gray area instances in which the person is still exposed to the possibility of threat or harm to self or others—in these cases, the threat response would linger. Also, if the trauma entails loss of physical capacities (e.g., burns and injuries) or loss of significant personal resources (housing, money, food, clothing, etc.), that, if present, would promote recovery, then this time frame will expand accordingly. In addition, mental health interventions need to be secondary to efforts to secure safety and to address basic needs, which is consistent with the recommendations of the American Red Cross (1998). In addition, if the trauma entailed physical or sexual assault, safety planning and emergency stabilization should take precedence over efforts to address psychological or emotional needs (e.g., Resnick, Acierio, Holmes, Dammeyer, & Kilpatrick, 2000).

What do people need in the immediate aftermath of trauma? The answer to this question may come, for the most part, from what we would envision doing immediately after someone we love is exposed to trauma. We would ask the person what he or she needed and empower that person to decide the kind of help he or she wanted. We would provide soothing comfort, respectful and well-timed physical touch (e.g., handholding, a hug), and we would do our best to remain calm. We would accurately convey the person's experiences and we would be extremely accepting and validating. We would emphasize that that person is not alone and that we are there to help him or her. We would provide information relevant to recovery, assist with problem solving, and seek professional assistance when necessary. We would work toward reducing stigma and shame. We would not be intrusive and we would not pressure the person to disclose what happened unless he or she felt the need to. These supportive, caring, and empathic responses lie on a continuum. At the other end of the continuum are recovery environments that are impoverished, punitive, blaming, demanding, anxious, and invalidating; features that create risk for chronic PTSD (e.g., Bolton, Litz, Glenn, Orsillo, & Roemer, 2002).

The type of support that individuals need in the immediate impact phase is "psychological first aid," a term first employed by Beverley Raphael (1977; 1986), which is supportive and noninterventionist and not offered as "therapy" or "treatment." Formal mental health intervention, advice, interpretation, or other directive interventions are not to be provided during the immediate impact phase. The goal of psychological first aid is *not* to maximize therapeutic emotional processing of horrific events, as in exposure therapy (see later) but, rather, to respond to the acute need that arises in many to share their experience, at the same time respecting those who do not wish to discuss what happened (Litz et al., 2002). Added to the list of emotional support methods described previously is the goal of providing information to individuals about what they can reasonably expect in the days and weeks ahead (see U.S. Consensus Workshop on Mass Violence and Early Intervention, 2001). If feasible, clinicians should inquire briefly and respectfully about known risk factors for chronic PTSD. For example, prior trauma can be evaluated by asking the person, "Has anything like this ever happened to you before?" If the person spontaneously reports a history of severe psychological problems, if it is clear that there are inadequate social supports and ongoing stressors, and the person suffered severe exposure to particularly grotesque aspects of the event, including fatalities or salient harm, then it is prudent to offer and schedule early intervention services for a period after the immediate recovery phase has passed. If early intervention is indicated, information should also be provided about what should trigger help seeking after a few days have passed. The clinician should also find out how the person is going to take care of him- or herself in

the days ahead; if necessary, the person should be prompted to find respite and to reduce demands.

One could argue that psychological first aid could be provided by significant others, and in many cases this is true. On the other hand, formal professional training in the provision of psychological first aid can be useful for several reasons. First, in some situations, people do not have available significant others, their significant others are also traumatized, or the trauma has made it difficult for them to take advantage of support systems (e.g., Riggs, Byrne, Weathers, & Litz, 1998; Solomon, Mikulincer, & Avitzur, 1988). Second, professional training is appropriate because the person providing the psychological first aid would be guaranteed to know what *not* to do (i.e., not be intrusive and demanding of self-disclosure)—some bystanders, or untrained emergency medical professionals may inadvertently be intrusive or demanding, which can be destructive. On the other hand, given that the immediate impact lasts days, sustained respectful and accommodating social support in the natural recovery environment is of obvious importance. Professionals can provide information (e.g., handouts and public service announcements) and formal education regarding recovery needs to significant others.

In an ideal world, everyone exposed to trauma would receive some kind of psychological first aid that matches the needs of the individual in the immediate impact phase. However, the scope of the traumatic events and the availability of resources affect the capacity for planning and implementing a psychological first-aid strategy. Not everyone can be offered psychological first aid and, thankfully, at least from a public health perspective, because of natural resourcefulness and resilience, not everyone needs it. Even in the context of the attack on the World Trade Center in Manhattan on 9-11-01, the majority of individuals who suffered direct trauma on that day did not receive any formal intervention, and, a year after the event, the prevalence rates for PTSD were about 10% (e.g., Galea et al., 2002). Nevertheless, there are traumatic contexts in which resources should be (and typically are) provided routinely for psychological first aid to promote recovery and service seeking (emergency room consultations with victims of violent crime and sexual assault, death notification, etc.).

It is important to underscore that there is little or no research on the effects of psychological first aid and there has been no research that has systematically explored the optimal timing interval for intervention. Although there is ample conceptual justification for psychological first aid on theoretical and human grounds, empirical research is needed to determine demonstrable and measurable impact. Improvements should be expected in perceived social support, reduced stigma, increased help seeking, and understanding and acceptance of experience. Finally, it should be noted that the immediate impact

phase is a period in which basic stress management procedures and medical interventions designed to reduce arousal may be appropriate and effective (see Pitman et al., 2002).

Early preventive psychological interventions should be offered only to individuals who are at risk after the immediate impact phase has passed. Because most people are distraught initially, there is no way of knowing whether the transient reaction reflects a risk factor for chronicity. That would require a clinical assessment to determine risk at an inappropriate time for such an inquiry. In addition, the absence of visible expressions of intense emotional reaction does not necessarily signal risk. During the *acute phase* of recovery from trauma, secondary prevention interventions should be employed for those at risk for chronic posttraumatic difficulties. We define the acute phase as the interval after the immediate phase is over to 1 month posttrauma. As with the definition of the time frame for the immediate impact phase, the time frame prescribed for the acute phase is a working heuristic model rather than an absolute recommendation. Because acute stress disorder (ASD) is a major risk factor for chronic PTSD, the outer limit for the acute phase corresponds to the time frame for ASD (American Psychiatric Association, 1994). We turn now to describing early secondary prevention interventions for trauma.

EARLY INTERVENTIONS DESIGNED TO REDUCE RISK FOR POSTTRAUMATIC STRESS DISORDER

Critical Incident Stress Debriefing and Critical Incident Stress Management

CISD remains the most commonly accepted and applied method of early secondary prevention of PTSD. Throughout the world, emergency services personnel (e.g., firefighters, police, and emergency medical technicians), employee assistance programs, school counselors, the majority of governmental and nongovernmental agencies responsible for disaster and refugee mental health, and military organizations employ CISD as policy. For example, the American Red Cross policy mandates the use of CISD (American Red Cross, 1998). The American Psychological Association's task force on the mental health response to the Oklahoma City Bombing recommended extensive training in CISD and mandated the use of CISD in mass causality disasters (American Psychological Association, 1997). CISD is attractive because it is presented not as a clinical intervention but, rather, as an opportunity for individuals to share their common, normal response to extreme circumstances with CISD team members, at least one of whom is a peer highly familiar with occupational demands and concerns.

The CISD framework has been revised so that it is now considered part of a more comprehensive critical incident stress management (CISM) program (Everly & Mitchell, 2000). The CISM program is a series of interventions with high face validity designed to comprehensively address the needs of emergency services organizations and personnel. The CISM interventions are designed to psychologically prepare or prebrief individuals prior to dangerous work, meet the support needs of individuals during "critical incidents" (e.g., while Red Cross personnel are working with families who lost loved ones in a disaster), provide CISD, consult with organizations and leaders, work with the families of those directly affected by trauma, and facilitate referrals and follow-up interventions designed to address lingering stress disorders.

The cornerstone of CISM is CISD, which is a formal, group intervention with didactic and experiential components. The goal of CISD is to reduce acute stress and reduce risk for PTSD (secondary prevention; Everly & Mitchell, 2000; Mitchell & Everly, 1996). The interventions are designed (1) to educate individuals about stress reactions and ways of coping adaptively with them, (2) to instill messages about the normalcy of reactions to trauma, (3) to promote emotional processing and self-disclosure of the details of what each individual in the group experienced, and (4) to provide information about, and opportunity for, further trauma-related intervention if it is requested by the participant.

Individuals exposed to a trauma are invited, within days (often within 48 hours), to participate in a 3- to 4-hour session in which the trauma ("incident") is reviewed, akin to Marshall's original concept of debriefing. All individuals, regardless of the degree of their exposure, acute symptoms, or impairment, are invited to attend a CISD (e.g., Hokanson & Wirth, 2000). The common assumption of individuals who apply CISD is that everyone exposed to a trauma is at risk for PTSD and that everyone could benefit from an opportunity to learn about trauma and stress management and to share their experience emotionally soon after trauma. This thinking is problematic given that not everyone is equally at risk (nor does everyone need a standard intervention). Treating everyone exposed to a trauma also fails to sufficiently consider the natural resiliency of survivors and emergency care providers and their capacity to find adaptive ways of managing reactions to the stressful demands they face (e.g., Gist & Devilly, 2002; Gist & Woodall, 2000). In addition, we would argue that for some, providing a formal intervention of this kind within 48 hours is inappropriate.

In the official CISD literature, CISD is framed as a necessary and sufficient intervention to prevent PTSD in some cases and as a necessary but not sufficient intervention for severely traumatized individuals who have lingering disturbing symptoms and problems after a trauma (these individuals require follow-up care). Given the lack of prescreening, CISD is provided to people

who would do well on their own anyway with the passage of time, which would suggest that their participation is unnecessary. In addition, it appears that CISM may serve to screen individuals (it is hoped) who require sustained psychological therapy to reduce the risk of chronic PTSD. For these individuals, it is entirely unclear whether the single CISM meeting has any rehabilitative benefit other than providing information about other services that may be available on down the line.

Although it makes sense, given the goals of CISM, to include peers as co-facilitators, this can create dual relationships and may make some attendees feel unsafe, which may be countertherapeutic and possibly unethical (e.g., Gist & Woodwall, 2000). Formally, the goal of including peer support personnel in a CISM team is to enhance the team's credibility and legitimacy in terms of particular work cultures. It is quite possible that this feature is important in many work contexts, although it also seems likely that it constrains the extent to which emotionally salient or inadvertently incriminating experiences are shared for some.

Another concern with the implementation of CISM is that individuals may be mandated or subtly coerced by their employers to attend a debriefing session, which could breed resentment and disengagement. For example, all 65,000 police officers in the five boroughs of New York City were mandated to attend a CISM. A related criticism of CISM is that an individual who is reluctant to disclose personal information may feel stigmatized and pressured by the group's expectations. In this context, sharing of personal experiences may have harmful rather than helpful consequences (Young & Gerrity, 1994).

One of the confusing issues in the execution of CISM is the process whereby an individual (or group of individuals) is found to be appropriate for CISM. Apparently, CISM is chiefly designed for use with emergency service workers (firefighters, rescue personnel, emergency room personnel, police officers, etc.), although CISM training materials also describe CISM as appropriate for witnesses to events and bystanders who assist in the emergency response. The literature emphasizes that "direct victims" of critical incidents, family members of those seriously injured or killed, and those seriously injured in trying to respond to an incident require more extensive early intervention treatment and should not attend a CISM. These so-called direct victims are handled in unspecified ways within the broader treatment framework of CISM. However, it is unclear whether those who practice CISM apply the intervention only to individuals secondarily exposed to trauma (Dyregrov, 1999). The American Red Cross disaster mental health manual mandates the use of CISM for all victims of trauma and loss by traumatic means (e.g., air disasters). Following the terrorist attacks on the World Trade Center, thousands of office workers and other people directly involved in the incident were provided CISM. Another issue is how direct victims of trauma are screened, oper-

ationally, in the field. Certainly, a role as the sole inclusionary criterion for CISM would be insufficient: for example, emergency workers may be exposed to severe trauma "directly" and secondarily by virtue of observing others suffer greatly.

All the foregoing points aside, by far the biggest criticism of CISM and CISM is that there is grossly insufficient evidence to support its use as a secondary prevention of PTSD. The studies that proponents of CISM/CISM use to support the efficacy of their approach are all uncontrolled (no control group, no random assignment), fail to employ well-validated measures of posttraumatic stress, fail to evaluate preintervention status and rely on posttest only data, fail to provide independent evaluations of outcome, and fail to employ treatment fidelity checks (Everly, Flannery, & Eyler, 2002). As a result, they are internally invalid and fail to reveal anything about the efficacy of CISM/CISM. Any study of an intervention provided in the immediate and acute recovery phases of traumatic adjustment that fails to evaluate preintervention baseline mental health and randomly assign subjects may appear to promote change because of the natural reduction in severity and frequency of symptoms that occurs over time.

Yet, proponents of CISM/CISM tout the empirical support their approach receives in research literature reviews, mostly published in the proprietary trade journal of their own organization (The *International Journal of Emergency Mental Health*¹; e.g., Flannery & Everly, 2000; Everly & Mitchell, 2000; Flannery, 1999; Miller, 1999). The proponents of CISM/CISM also ignore or eschew negative findings from uncontrolled and controlled studies (see below) because of concerns that the intervention provided was not "CISM" but, rather, "psychological debriefing" of some unspecified variety. This conclusion is disingenuous. Due to the absence of treatment fidelity checks, we cannot know that CISM was employed in the uncontrolled studies used to support CISM, even if investigators claim to be using that specific approach. In Everly, Flannery, and Mitchell's (2000) review of research on CISM, the authors note the need for more empirically sound, controlled, randomized trials to test the efficacy of CISM, yet they summarize the results of uncontrolled, internally invalid studies and anecdotal evidence as proof that CISM works as an early intervention. For example, Everly et al. state that "current evidence suggests that

¹From the International Critical Incident Stress Foundation (ICISF) membership information sheet: "CISM team and ICISF members responsible for implementing CISM interventions in the field have asked for a simple, concise way of keeping up with the latest advances in crisis intervention and CISM. Those who teach, train, and do research have also asked for a simple concise way of 'staying current' with the latest research and 'lessons learned' in actual CISM interventions and from the program development perspective. The *International Journal of Emergency Mental Health* can help to keep people current in the crisis intervention field."

the CISM approach appears clinically efficacious and cost effective in this era of managed health care. The current, distinguished, international body of CISM researchers suggests great promise for the development of improved CISM procedures that further minimize present suffering and prevent the development of long-term negative sequelae" (p. 37).

There have been several independent, randomized, controlled trials of psychological debriefing using the procedures of CISM with direct victims of trauma as participants (and one study using couples; Bisson, Jenkins, Alexander, & Bannister, 1997; Conlon, Fahy, & Conrory, 1999; Deahl, Srinivasan, Jones, Thomas, Neblett, & Jolly, 2000; Hobbs, Mayou, Harrison, & Warlock, 1996; Mayou, Ehlers, & Hobbs, 2000; and Rose, Brewin, Andrews, & Kirk, 1999). These studies have been discussed exhaustively in recent literature and meta-analytic reviews (Litz et al., 2002; Rose, Bisson, & Wessely, 2001; van Emmerik, Kamphuis, Hulsbosch, & Emmelkamp, 2002). Each study revealed that debriefing did not produce positive change relative to no intervention. Two widely cited studies showed debriefing to lead to small but significantly worse outcomes (Bisson et al., 1997, and Hobbs et al., 1996). Many authors have concluded from these studies that debriefing is "toxic" (e.g., Gist et al., 1997). However, in our view, it is premature to definitively conclude that CISM is harmful because of the small effect size of the negative results (Litz et al., 2002).

Contrary to the conclusions of advocates of CISM/CISD, there is no sufficiently rigorous empirical support for the use of CISM/CISD in the secondary prevention of chronic PTSD. Controlled studies reveal it to be therapeutically inert when applied to individuals. As the modal application of CISM/CISD is the group format, rigorous randomized controlled trials of group debriefing, exquisitely executed (and documented) according to the standards offered by Everly and Mitchell (2000), are needed to definitively address the controversy surrounding the approach. It would be prudent for the ICISF to fund independent, randomized, controlled trials of CISM/CISD, provided in strict accordance with the dictates of the approach. This research is needed quickly, if CISM/CISD can remain a viable approach, given the rapidly shifting tide in the early intervention field. For example, the U.S. Department of Defense, the National Institute of Mental Health, the Department of Veterans Affairs, the American Red Cross, the U.S. Department of Health and Human Services, and the Department of Justice convened a consensus conference on early interventions following mass violence in October 2001. One of the conclusions of the conference was that CISM/CISD had no rigorous empirical support, and, as a result, was not recommended (National Institute of Mental Health, 2002). In addition, the official policy of the British National Health Service is that debriefing should not be used for victims of trauma (Parry, 2001), based on the results of the Cochrane review of debriefing (Rose et al., 2001).

The Alternative to Critical Incident Stress Debriefing/ Critical Incident Stress Management: Cognitive-Behavioral Therapy as Early Intervention

Major gains have been made in the last 15 years in the development and validation of protocols for treating adults with chronic PTSD with cognitive-behavioral therapy (CBT) as well as generating standards for evaluating the efficacy of treatments trials in PTSD research (e.g., Foa & Meadows, 1997). The majority of well-designed, randomized, controlled trials have been conducted on samples of motor vehicle accident survivors (e.g., Bryant, Harvey, Dang, Sackville, & Basten, 1998), sexual assault survivors (e.g., Foa et al., 1999; Resick, Nishith, Weaver, Astin, & Feuer, 2002), and combat veterans (Keane, Fairbank, Caddell, & Zimering, 1989). The specific techniques that have been shown to be effective within the CBT framework are exposure therapy, stress inoculation training, and cognitive restructuring (see Foa & Rothbaum, 1998). Thus far, studies have shown convincingly that CBT reduces PTSD symptom severity and related functional impairments from relatively discreet adult-onset traumas (e.g., Foa et al., 1999). Cognitive-behavioral treatment has become the prescriptive evidence-based approach to treat PTSD, recommended and endorsed by the International Society of Traumatic Stress Studies (Foa, Keane, & Friedman, 2002).

As a natural extension of empirical research on the treatment of chronic PTSD, leading clinical research groups have applied CBT as an early intervention to prevent PTSD, which represents an excellent example of how research on the treatment of chronic PTSD can be translated to the acute context. The interventions employed within CBT treatments have been shown in randomized controlled trials to prevent the development of chronic posttraumatic pathology in recent trauma victims (Bryant et al., 1998; Bryant, Sackville, Dang, Moulds, & Guthrie, 1999).

Foa, Hearst-Ikeda, and Perry (1995) were the first to examine CBT to prevent PTSD. They compared the symptom course of 10 female victims of rape or aggravated assault who received a four-session cognitive-behavioral intervention shortly after their assault with that of 10 assessment-only control victims. All participants were matched on symptom severity, type and severity of assault, demographic characteristics, and time since the assault. This individually administered intervention consisted of educating participants about common reactions to assault, relaxation training, imaginal and *in vivo* exposure, and cognitive restructuring. Two months after the assault, victims receiving CBT reported experiencing significantly fewer symptoms of PTSD than did assessment control participants. At a 5-month follow-up assessment, participants in the treatment condition reported significantly fewer symptoms of de-

pression, although there were no differences between groups with respect to PTSD symptoms. Effect size analyses indicated that the difference in PTSD scores between the two groups at the 5-month follow-up was relatively large, but because of the small sample size, the lack of a statistically significant difference likely resulted from low statistical power. Moreover, the control group in this investigation experienced significant symptom remission that also may have contributed to the lack of a statistically significant difference in PTSD symptoms at the 5-month follow-up.

Bryant et al. (1998) also report a successful CBT program for recently traumatized individuals. This intervention specifically targeted individuals with ASD who were thus more at risk for chronic PTSD. Accordingly, their study provided a more direct test of the efficacy of brief CBT in preventing PTSD. Moreover, because control participants received supportive counseling, it was possible to evaluate the extent to which treatment promoted improvement above and beyond that resulting from nonspecific therapeutic factors (somewhat analogous to psychological first aid). Participants were survivors of motor vehicle accidents or industrial accidents who were randomly assigned to either CBT or supportive counseling. Both interventions consisted of five, 90-minute, weekly, individual therapy sessions. At posttreatment and at the 6-month follow-up, significantly fewer participants in the CBT group met diagnostic criteria for PTSD relative to the supportive counseling condition.

In a subsequent study that dismantled the components of CBT, Bryant and colleagues randomly allocated 45 civilian trauma survivors with ASD to five sessions of either (1) CBT (prolonged exposure, cognitive therapy, anxiety management), (2) prolonged exposure combined with cognitive therapy, or (3) supportive counseling (Bryant et al., 1999). This study found that, at a 6-month follow-up, PTSD was observed in approximately 20% of both active treatment groups compared to 67% of those receiving supportive counseling.

The CBT interventions share many features with psychological debriefing. For example, they both include an education component designed to inform trauma victims about common posttraumatic reactions and sequelae, both attempt to teach coping skills for managing symptoms of stress and anxiety, and both provide an opportunity for survivors to disclose and emotionally process their trauma. Given the similarity between psychological debriefing and cognitive behavioral interventions, what may account for the apparent differences in treatment efficacy? Perhaps the most prominent reason that CBT appears to be more efficacious than CISD, in particular, is that within CBT, there is an emphasis on facilitating survivors as they learn and apply adaptive coping strategies that promote recovery and lessen risk for chronic PTSD, *in vivo*, over time. In addition, there is greater emphasis on repeated, imaginal re-living of the traumatic event and graded, *in vivo* exposure of avoided trauma-

reminiscent situations. In their review of the psychological debriefing literature, Bisson, McFarlane, and Rose (2000) suggest that one-session intense exposure to trauma memories that characterizes most debriefing approaches might be countertherapeutic because it may heighten arousal and distress without allowing sufficient time for extinction or resolution of intensely negative posttraumatic affect. The results of the cognitive-behavioral interventions described earlier would seem to refute the notion that early exposure per se is countertherapeutic. Rather, it is the hasty and incomplete exposure to trauma memories that typifies traditional psychological debriefing approaches that may be potentially harmful.

The CBT approaches of Foa et al. (1995) and Bryant et al. (1998; Bryant et al. 1999) also included systematic cognitive restructuring. There is evidence that acute pathological trauma responses are characterized by catastrophic cognitive styles (Smith & Bryant, 2000; Warda & Bryant, 1998). Given that there is also evidence from studies targeting chronic PTSD that cognitive restructuring is effective in reducing symptoms (Tarrier, Pilgrim, & Sommerfield, 1999), the inclusion of cognitive restructuring over repeated sessions in CBT approaches to secondary prevention of PTSD may be another reason why CBT is more effective than CISM/CISM.

Cognitive-behavioral interventions also differ from CISM/CISM efforts with respect to timing and duration of the intervention. We have argued that formal secondary prevention efforts are at risk for failure (or symptom exacerbation) if provided in the immediate impact phase after trauma exposure. The interventions developed by Foa et al. (1995) and Bryant et al. (1998) were administered an average of 10 or more days after the trauma occurred. Moreover, the interventions, though brief, consisted of four or five weekly sessions, and both encouraged extensive daily homework as an integral feature of treatment. Given the profoundly deleterious effects of trauma, single-session interventions are simply insufficient to adequately address such powerful experiences among individuals who experience chronic or severe posttraumatic pathology.

Considering the multiple differences (prolonged exposure, cognitive restructuring, delayed intervention, and multiple session treatment) between CBT and psychological debriefing, it is not possible to specify which factors—alone or in combination—are responsible for CBT promoting better posttraumatic adjustment. Future research efforts should be designed to elucidate which specific components of CBT are the necessary and sufficient factors in achieving positive change following recent traumatic exposure. It will also be necessary to replicate the findings of Foa et al. (1995) and Bryant et al. (1998; Bryant et al., 1999) with larger samples comprised of different types of trauma victims to evaluate the generality of these findings.

Indeed, considerably more research is needed to examine a number of

outstanding issues in early secondary prevention of PTSD. These are (1) the optimal time frame to provide psychological first aid and early intervention, (2) how and why resilient and at-risk individuals who receive services recover from trauma over time, (3) the parameters of specific therapeutic change agents, (4) the type of postintervention behaviors that promote recovery and maintenance of change, and (5) the optimal mode and method of screening for various types of trauma (e.g., mass disaster and victims of violence presenting at emergency rooms). Although we recommend that interventions be devised to treat only those individuals who are not likely to recover over time on their own, more research is needed to determine which risk factors are optimal from empirical and public health vantage points. In addition, researchers and clinicians should be vigilant about the possibility that early identification of individuals could inadvertently produce negative iatrogenic effects (e.g., stigmatization and self-fulfilling prophecy).

In addition, research on the interaction of individual difference characteristics, response to psychological first aid, and formal secondary prevention intervention is needed. For example, some trauma survivors may feel imposed upon by peers or significant others to share their trauma experiences, preferring to avoid emotional self-disclosure, not because of a pathological response to trauma but as a result of personality characteristics. It could be that some forms of early intervention may be inappropriate, counterproductive, or destructive because they fail to acknowledge individual differences in characteristic mode of event processing. Some trauma survivors may be unduly anxious, resentful, or inhibited if they are provided group-based interventions that require self-disclosure and bearing witness to others' self-disclosure. Alternatively, some individuals in a group may be so intensely emotionally reactive to the process of sharing a narrative account of their trauma that they feel overwhelmed, which exacerbates the experience of shame and victimization. In terms of help seeking, some people may be predisposed to expect others to be a useful source of support and guidance under stressful conditions, while others prefer to work problems out on their own—also, not necessarily a sign of pathological response to trauma.

Finally, translation research is needed to test more efficient methods of delivering evidenced-based procedures in the treatment of PTSD. Although there is excellent empirical support for the use of CBT in the early intervention of trauma in adults, a practical limitation of available studies is that they are limited to individually administered therapy contexts that typically require between 8 and 12 sessions delivered in a specialty mental health care setting. From a public health perspective, the labor-intensive nature of these therapies represents a significant obstacle to provision of therapy to thousands of individuals suffering PTSD in the context of mass violence events and disasters.

Even in communities with substantial mental health infrastructure, there are rarely sufficient therapy resources to provide the form of individual, multi-session therapy described in previous outcome studies. Typically, the availability of professionals trained in comprehensive CBT procedures is limited, and many victims may not be able to access such services or may have difficulty following through with multiple visits to mental health centers. In these contexts, brief evidence-based interventions are much more cost-effective and reach a larger number of victims, which makes them attractive from a public health perspective. Accordingly, research is needed that evaluates novel, efficient modes of treatment delivery for patients with chronic PTSD that can be translated to the acute trauma context as an early intervention. For example, specially designed Internet sites or telemedicine-type methods could be employed to teach, promote, and monitor stress- and self-management skills practiced *in vivo*, over time, consistent with CBT.

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